

NATIONAL TRANSPORTATION SAFETY BOARD  
OFFICE OF MARINE SAFETY  
WASHINGTON, D.C.

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:  
SELENDANG AYU :  
:  
INTERVIEW OF 4TH ENGINEER :  
ANUJ SINGHAL :  
:  
- - - - - x

An interview in the above entitled matter was held  
on Monday, December 13, 2004, commencing at 1:34 p.m.,  
before:

BRIAN CURTIS, NTSB  
DARRELL HOWELLS, USCG  
CAPTAIN LEW KWOK YUE, IMC

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1               FOURTH ENGINEER SINGHAL:   Myself, Anuj Singhal,  
2   4th engineer of Selendang Ayu, and the company name is IMC  
3   Shipping (indiscernible).

4               MR. CURTIS:   Okay, good.   I'll just put this a  
5   little closer to you, Anuj, just so (indiscernible) pick it  
6   up good.   We'll start out just a little bit about your  
7   background.   Did you go to a school for training?

8               FOURTH ENGINEER SINGHAL:   Yes, sir.   I  
9   (indiscernible) mechanical that is four year school for  
10   engineering degree.   Then, after that I (indiscernible)  
11   mechanical to be (indiscernible) for some (indiscernible)  
12   UST.   Then, after that I sailed on two ships of the  
13   (indiscernible) in our company (indiscernible), German based  
14   company.   Then, after that I cleared my exams.   I got  
15   (indiscernible) degree from Singapore.

16              So, after that I joined the same company  
17   (indiscernible) and did one contract as a fourth engineer,  
18   duration about seven months, 29 days, and after that I  
19   (indiscernible).

20              MR. CURTIS:   Okay.

21              FOURTH ENGINEER SINGHAL:   And this is my second  
22   vessel (indiscernible) as a fourth engineer.

23              MR. CURTIS:   When did you start going to sea?  
24   When did you get your license and start going to sea?   What  
25   year?

1           FOURTH ENGINEER SINGHAL: I joined my first vessel  
2 on 25th of September 2000, I think, as a cadet, and  
3 (indiscernible).

4           MR. CURTIS: The license you currently have is a  
5 fourth engineer's license?

6           FOURTH ENGINEER SINGHAL: (Indiscernible) shipping  
7 license from Singapore, sir.

8           MR. CURTIS: Anuj, what I'd like to do is,  
9 beginning -- the engine broke down some time during the day  
10 in the morning of the 6th, of the lunch time of the 6th,  
11 some -- Monday around that time. First of all, are you a  
12 day worker, or watch stander?

13          FOURTH ENGINEER SINGHAL: Sir, normally, this was  
14 a (indiscernible) and I use to do a day work, sir.

15          MR. CURTIS: You're on day watch?

16          FOURTH ENGINEER SINGHAL: But on rough -- during  
17 rough sea, chief engineer asked us to keep watches.

18          MR. CURTIS: Okay.

19          FOURTH ENGINEER SINGHAL: This vessel was manned  
20 all the times.

21          MR. CURTIS: Were you on -- you were on watch at  
22 the time?

23          FOURTH ENGINEER SINGHAL: Yes, sir.

24          MR. CURTIS: When did you start standing watches  
25 because of the rough weather?

1               FOURTH ENGINEER SINGHAL: Maybe on -- I'm not  
2 sure, maybe 2nd of December, or so.

3               MR. CURTIS: You've been on watches for quite a  
4 few days previous to that?

5               FOURTH ENGINEER SINGHAL: Not regularly, in case,  
6 but that is okay. Then we do work back (indiscernible).

7               MR. CURTIS: Unmanned engine room?

8               FOURTH ENGINEER SINGHAL: Unmanned, yes, sir.

9               MR. CURTIS: From the 2nd until the 6th, you were  
10 on watch, is that roughly?

11              FOURTH ENGINEER SINGHAL: Sometimes on watch,  
12 sometimes we're ordered back to (indiscernible).

13              MR. CURTIS: On and off in that period?

14              FOURTH ENGINEER SINGHAL: On and off, yes.

15              MR. CURTIS: What was your watch? When you were  
16 on watch, what was your watch?

17              FOURTH ENGINEER SINGHAL: It's morning time, 8:00  
18 until 12:00 in the noon, and in the evening, 20:00 to 24:00  
19 hours.

20              MR. CURTIS: Okay, 8:00 to 12:00 watch, okay  
21 great. Anuj, I'd like to have you go through, starting,  
22 say, after -- in the morning, say, 8 o'clock, or your first  
23 watch on the 6th, and just go through, take your time, and  
24 any big events that you remember the time that they  
25 happened, if you could let us know those.

1           I understand it's difficult to go back, and have  
2 times, but just go through with your events, and tell us  
3 what happened from the morning of the 6th, right through  
4 until you get off the helicopter, and take your time, we  
5 have plenty of time. We'll get all the detail we can.

6           FOURTH ENGINEER SINGHAL: Sir, I came down to the  
7 engine room 10 to 8:00 on 6th -- December 6th, and I met  
8 second engineer, because he keeps watch during 4:00 to 8:00.  
9 So, normally, I check all the parameters in control room.  
10 Then, I ask second engineer if there were any abnormal  
11 (indiscernible) during evening watch.

12           Then, he did not -- he told me there  
13 were -- everything was normal, and then I asked any special  
14 instruction from chief engineer that I have to keep watch on  
15 something, and he told me as normal, main engine low should  
16 not exceed 72 and our pressure we maintained between 12,000  
17 to 12 (indiscernible) rpm rate.

18           If, in case rpm goes beyond that (indiscernible)  
19 increases, you call up bridge to reduce the rpm by one or  
20 two, and inform chief engineer, and then after that he told  
21 me -- I asked him any important job that I have to do for  
22 that day, and he told me this is Monday, and on Mondays,  
23 normally, you will cleaning other engine (indiscernible) sea  
24 water strainer. So, he asked me to do that and in the  
25 meantime, chief engineer came down, and they were talking,

1 and I went for rounds.

2 And then, I took the round of (indiscernible)  
3 maybe 40 to 45 minutes it took to get the complete round,  
4 and then I straightened up (indiscernible) room for long  
5 time, because that has been (indiscernible) overall. So, I  
6 stayed there for around half an hour, approximately.

7 After checking all the parameters, I went down,  
8 and I changed from number one pump to number two pump for  
9 generators, and then isolate the (indiscernible). I closed  
10 and let it out (indiscernible) of the same pump, and after  
11 we confirming on the top, near the (indiscernible) that sea  
12 water pressure is okay, I came down. I opened that  
13 strainer, and I cleaned it. I put it back, and put the same  
14 (indiscernible).

15 Then, I don't know the exact time, what was the  
16 time at that time when I went up. After that I think I went  
17 for a cup of coffee. I think it was a (indiscernible) or  
18 so, I don't remember (indiscernible). I went for a cup of  
19 coffee.

20 Then, when I came down at 10:30, I went to the  
21 (indiscernible) because I had to make -- chief had asked me  
22 to give him the list of (indiscernible) of duty for us on  
23 board as a (indiscernible). So, I was checking the  
24 (indiscernible) these days, from last three, four days.

25 So, I already completed most of them, but I was

1 not (indiscernible) work some parts of duty for us. So, I  
2 checked that one, and then, when I finished those, I went  
3 for cleaning my hands, and after cleaning the hands, I drank  
4 some water, and when I turned back, and I looked down, and  
5 saw some water seeping out through the -- a jet of water  
6 coming out from the number three unit.

7               So, I went inside the control room. Chief  
8 engineer and second engineer were there. So, I told second  
9 engineer that I saw -- I saw some water spraying out of the  
10 number three unit. Then, he immediately goes down. He  
11 checked himself. He came up. He told the chief engineer,  
12 and then, he told me. He told me to go -- he told me that  
13 he is stopping the main engine. He asked me to start fresh  
14 water generator.

15               MR. CURTIS: Excuse me?

16               FOURTH ENGINEER SINGHAL: Fresh water generator.  
17 He asked me to start fresh water generator.

18               MR. CURTIS: Fresh water generator? Oh, okay, the  
19 evaporator, okay.

20               FOURTH ENGINEER SINGHAL: The evaporator, sir.  
21 Then, I went there, and I start the fresh water generator,  
22 and by the time I stopped the fresh water generator, main  
23 engine was stopped, and then --

24               MR. CURTIS: What time was the engine stopped,  
25 about? Sorry to interrupt.

1               FOURTH ENGINEER SINGHAL: I think almost I had  
2 finished my work, and I was going up -- I was going to the  
3 control room for handing over my watch to third engineer.

4               MR. CURTIS: So, it was about that time?

5               FOURTH ENGINEER SINGHAL: Yeah, yes, sir.

6               MR. CURTIS: So, 11:30, something like that maybe?

7               FOURTH ENGINEER SINGHAL: Yes, nearly 12:00,  
8 because --

9               MR. CURTIS: Nearly 12:00.

10              FOURTH ENGINEER SINGHAL: -- 8:00 to 12:00, my  
11 watch, and 10:00 to 12:30 (indiscernible).

12              MR. CURTIS: Okay, sorry to interrupt. Okay, go  
13 ahead, I'm sorry.

14              FOURTH ENGINEER SINGHAL: So, I stop the fresh  
15 water generator. Then, I came up, and second engineer  
16 called me. I went inside, and he told me that we are going  
17 to isolate number three unit, and we will continue our  
18 voyage, and then he asked me to go down, and close the water  
19 to that particular unit, number three unit, and start -- he  
20 told me that he will stop the (indiscernible) pump, and then  
21 the well pump in a few minutes. Then, we will start  
22 (indiscernible) all the (indiscernible) pipes and spring air  
23 pipes connection already.

24              So, I went down and I isolated jacket water to  
25 that particular unit. After that from top he

1 (indiscernible) me. After some time that you can remove the  
2 connections. Then, we removed the connections. Then, after  
3 that -- it's after that he told me that you cut a blank for  
4 blinding this air connection to the starting (indiscernible)  
5 for cranking the engine.

6 So, I make -- I got one (indiscernible) from the  
7 work shop, and I took the measurement, and then I went to  
8 the work shop, and it took me some time to cut the blank  
9 from the complication (indiscernible). Then, after grinding  
10 and making one basket, I went down -- I went down, and  
11 (indiscernible) help in the (indiscernible) put the blind  
12 case, and re tighten those connections. Then, after  
13 that -- after that he asked me to put -- he asked me to  
14 blind this pilot air line safety line, and spring air line.

15 MR. CURTIS: I'm sorry, the -- which other air  
16 lines?

17 FOURTH ENGINEER SINGHAL: The pilot air.

18 MR. CURTIS: Pilot air.

19 FOURTH ENGINEER SINGHAL: Spring air.

20 MR. CURTIS: Spring?

21 FOURTH ENGINEER SINGHAL: Yes, a safety air.

22 MR. CURTIS: Okay, I'm sorry, go ahead. You're  
23 doing a good job.

24 FOURTH ENGINEER SINGHAL: So, at that time, the  
25 (indiscernible) was running, and boiler was (indiscernible).

1     So, chief engineer called me, and he told me it would be  
2     better to stop the (indiscernible) because it is  
3     unnecessarily consuming the steam (indiscernible). So, I  
4     stopped (indiscernible), and so when I came out, second  
5     engineer was -- second engineer was isolating the exhaust  
6     hole.

7                 He was putting some special tool in the top of the  
8     (indiscernible) line connection for opening and -- opening  
9     the -- he was putting the -- he was putting some special  
10    tool, isolating that line, and by that time -- I think they  
11    have already isolated -- cut off the fuel of that particular  
12    unit, and after that I think it was evening. I don't know  
13    the time.

14                By that time it was evening, so he asked me to go  
15    for dinner. So, I went up, had my dinner, and I came down.  
16    When I came down, I saw -- they were ready for blank  
17    (indiscernible).

18                MR. CURTIS: If you could just speak up a little  
19    bit, please? Just so we have the microphone here.

20                FOURTH ENGINEER SINGHAL: Yes, sir.

21                MR. CURTIS: Okay, repeat that again.

22                FOURTH ENGINEER SINGHAL: I went up for our  
23    dinner, sir, because it was too late in my room, I don't  
24    remember the time. So, I went up. I came down after  
25    dinner, they were ready for blank (indiscernible).

1 MR. CURTIS: Ready for?

2 FOURTH ENGINEER SINGHAL: (Indiscernible) --

3 MR. CURTIS: Oh, to start it?

4 FOURTH ENGINEER SINGHAL: To start it.

5 MR. CURTIS: Okay.

6 FOURTH ENGINEER SINGHAL: After going through,  
7 chief engineer and second engineer tried to start the  
8 engine, but we were not able to do so.

9 MR. CURTIS: What time was that about, roughly,  
10 please?

11 FOURTH ENGINEER SINGHAL: Maybe 9 o'clock  
12 (indiscernible).

13 MR. CURTIS: Okay.

14 FOURTH ENGINEER SINGHAL: Maybe, I'm not sure all  
15 that.

16 MR. CURTIS: That's fine, we're just trying to get  
17 an idea of the times. You're doing a good job. So, just  
18 continue on.

19 FOURTH ENGINEER SINGHAL: Then, after that we  
20 tried for -- we tried so many times to restart the engine,  
21 but we were not able to do so. So, after that I don't know,  
22 checking the chief here, maybe they discussed with them,  
23 because -- and chief engineer told me that the company told  
24 them to try it in an other way.

25 MR. CURTIS: To?

1           FOURTH ENGINEER SINGHAL: Try it, to start the  
2 main engine in another way. So, he asked us to take out all  
3 the blanks.

4           MR. CURTIS: Yes?

5           FOURTH ENGINEER SINGHAL: He asked us to take out  
6 all the blanks, and put everything in place, and only fuel  
7 will be cut off from that part of the unit.

8           MR. CURTIS: Only cut the fuel off?

9           FOURTH ENGINEER SINGHAL: Only cut the fuel,  
10 everything will be normal (indiscernible).

11          MR. CURTIS: Okay.

12          FOURTH ENGINEER SINGHAL: I have fuel inject in  
13 order, because line was cracked. Two things only cut off.  
14 Rest everything will be normal. After that we tried again,  
15 sir, but we were not able to restart the engine. So, I  
16 think, I'm not sure, chief engineer again, told -- chief  
17 engineer discussed with the office maybe, I don't know that.  
18 That he told us that we will open all the end of these  
19 turning doors, and let's get engine manifold. We checked  
20 the condition of the piston through the (indiscernible)  
21 ports.

22          So, he asked me to go down, and we'll conduct the  
23 pistons (indiscernible) and I can some through what isolated  
24 (indiscernible) and he asked some people to go do the  
25 (indiscernible) end, open the (indiscernible).

1           MR. CURTIS:  So, on the scavenging manifold's on  
2 one side?

3           FOURTH ENGINEER SINGHAL:  Yes, sir.

4           MR. CURTIS:  And what's on the other side?

5           FOURTH ENGINEER SINGHAL:  Other piston doors.

6           MR. CURTIS:  The piston doors, okay.

7           FOURTH ENGINEER SINGHAL:  So, I took out all the  
8 piston doors.  Chief engineer and second engineer -- that I  
9 thought the remote for the (indiscernible) and I gave to  
10 second engineer, chief engineer, and second engineer turned  
11 the engine.  They checked all the piston rings, and the  
12 condition of the pistons, and they checked the spring  
13 (indiscernible).

14                   They did the spring test of all the rings, and I  
15 think they found one small piece of piston in the number six  
16 unit.  So, after that I thinks second officer took pictures  
17 of all the piston rings, and after that -- after that he  
18 asked me to put back all the -- those back in place, and  
19 after doing so, I think it was early morning.  I don't  
20 remember times and second engineer asked me go up and have  
21 some rest, because I was there from morning 8 o'clock.  So,  
22 he asked me to --

23           MR. CURTIS:  What time was this when you went up?

24           FOURTH ENGINEER SINGHAL:  I think early morning,  
25 sir.

1 MR. CURTIS: Excuse me.

2 FOURTH ENGINEER SINGHAL: Early morning, sir,  
3 yeah.

4 MR. CURTIS: Early morning?

5 FOURTH ENGINEER SINGHAL: Yes.

6 MR. CURTIS: That would've been early morning,  
7 Tuesday the 7th?

8 FOURTH ENGINEER SINGHAL: Seventh, yes.

9 MR. CURTIS: Okay.

10 FOURTH ENGINEER SINGHAL: So, I went up. I took  
11 shower, and I went to bed, sir, and then next day, around 9  
12 o'clock, second engineer called me up again. He told me  
13 that they have decided to pull out number six unit. So,  
14 when I came down almost -- they had already started. Some  
15 of the connections has been already removed, and after that  
16 in front of me, the (indiscernible) all the marks off  
17 cylinder head (indiscernible) but the weather was too rough  
18 at that time.

19 It was (indiscernible). So, I think chief  
20 engineer discuss with captain, and some of the deck crew  
21 also came down with plenty ropes. We tied ropes on the  
22 cylinder head all around, and we lift it up, and we managed.  
23 It took (indiscernible) to keep it on (indiscernible) on  
24 wooden planks and tie it up nicely.

25 After that I think we turned the piston. Third

1 engineer and somebody, I don't know who, had been -- just  
2 let the -- they did the (indiscernible) ropes, and after  
3 that the weather become more rough, and it started too much  
4 really. So, we were afraid to pull it out, because once the  
5 stopping box is out, then it is very little (indiscernible)  
6 control that piston with such a long piston rope. So, chief  
7 engineer and second engineer decided we will wait for  
8 weather to become little bit calm.

9 MR. CURTIS: What time was -- when you made this  
10 decision to wait, what time was this, about? I realize it's  
11 difficult.

12 FOURTH ENGINEER SINGHAL: I don't remember the  
13 time.

14 MR. CURTIS: Okay.

15 FOURTH ENGINEER SINGHAL: I don't remember. After  
16 this we was stand by over there for weather to become calm,  
17 but -- but the conditions were getting more worse. Weather  
18 was becoming more and more rough. So, next early morning,  
19 we decided that if we are not able -- if weather  
20 (indiscernible) we will pull up the stern. We will  
21 (indiscernible) try to change -- (indiscernible) in place.

22 Means we will put two wooden block under the  
23 piston. We will not pull it out completely, and on the top  
24 of cylinder liner, we'll put two wooden block, and keep the  
25 (indiscernible) on the top of it, and change the piston

1 (indiscernible) place.

2 So, but at the same time, I think U.S. Coast Guard  
3 contacted Master (indiscernible) that they don't want oil to  
4 be spilled anywhere. So, they want the oil off number one.

5 Oil off starboard side be alert then to (indiscernible).

6 MR. CURTIS: Okay, I want to get the detail of  
7 this. The Coast Guard called, and they didn't want oil in  
8 the water, so they --

9 FOURTH ENGINEER SINGHAL: I heard like that but I  
10 don't know whether they called or (indiscernible). I  
11 heard -- chief engineer told me that. That Coast Guard has  
12 already -- U.S. Coast Guard has already contacted the  
13 master, and they don't want oil -- any kind of oil spill.

14 MR. CURTIS: Right.

15 FOURTH ENGINEER SINGHAL: In order to prevent that  
16 they want oil from number -- off the starboard side, diesel  
17 oil tank, which is actually (indiscernible) water tank.

18 (Indiscernible) tank. So, chief engineer told me you leave  
19 this job on second engineer, and third engineer, and myself.

20 We'll manage this one. It's very important we start  
21 (indiscernible) oil from starboard side tank (indiscernible)  
22 diesel oil tank.

23 MR. CURTIS: Okay, and we just want to make sure  
24 we get that. You transferred oil from which tank, now?

25 FOURTH ENGINEER SINGHAL: From the (indiscernible)

1 starboard side (indiscernible).

2 MR. CURTIS: Double (indiscernible) starboard  
3 side.

4 FOURTH ENGINEER SINGHAL: (Indiscernible) on  
5 diesel oil starboard side tank to port side wind tank.

6 MR. CURTIS: To port side wind tank?

7 FOURTH ENGINEER SINGHAL: Diesel oil.

8 MR. CURTIS: Diesel oil wind tank? To store fuel,  
9 storage tank?

10 FOURTH ENGINEER SINGHAL: Yes, sir,  
11 (indiscernible) storage tank.

12 MR. CURTIS: Okay.

13 FOURTH ENGINEER SINGHAL: So, I started  
14 transferring that oil from starboard side to port side.  
15 After that so I was busy in (indiscernible) because it took  
16 some time to transfer this oil, because our (indiscernible)  
17 time I was transferring oil from port side tank to diesel  
18 oil service tank (indiscernible).

19 MR. CURTIS: Took for burning?

20 FOURTH ENGINEER SINGHAL: Yes, for burning, sir.  
21 Because we are to be ready for --

22 MR. CURTIS: What tanks were you burning off?

23 FOURTH ENGINEER SINGHAL: (Indiscernible) in the  
24 fuel oil in the (indiscernible). This oil is used for  
25 generators (indiscernible) something for diesel oil.

1           MR. CURTIS: Which tanks were you burning fuel  
2 from?

3           FOURTH ENGINEER SINGHAL: Diesel oil or fuel oil  
4 service tank.

5           MR. CURTIS: Fuel oil service tank, okay.

6           FOURTH ENGINEER SINGHAL: So, after that I  
7 transferred these (indiscernible) but I was not able to  
8 complete the transfers.

9           MR. CURTIS: What time did you start that  
10 transfer? Do you remember, roughly?

11          FOURTH ENGINEER SINGHAL: Maybe 9 o'clock.  
12 Maybe --

13          MR. CURTIS: Nine o'clock that's the morning of  
14 the 8th?

15          FOURTH ENGINEER SINGHAL: -- I'm not sure. It  
16 was, sir.

17          MR. CURTIS: Okay, so you're transferring from two  
18 to the wind tank?

19          FOURTH ENGINEER SINGHAL: Yes, sir, from  
20 (indiscernible) to wind tank.

21          MR. CURTIS: Okay.

22          FOURTH ENGINEER SINGHAL: Diesel oil.

23          MR. CURTIS: Okay.

24          FOURTH ENGINEER SINGHAL: And this thing was in  
25 process, and chief engineer called me up again that he told

1 me that we have minus two (indiscernible) down the piston.  
2 Put the piston in place. So, he asked my help to hold one  
3 of the rope so that we can put the cylinder head up in  
4 place.

5 MR. CURTIS: Now, at this point, did you stop  
6 transferring oil?

7 FOURTH ENGINEER SINGHAL: Yeah, I stopped  
8 transferring oil, because they were transferring the  
9 (indiscernible).

10 MR. CURTIS: So, you never -- did you ever finish  
11 transferring the oil?

12 FOURTH ENGINEER SINGHAL: I was not able to finish  
13 the transfers. So, I (indiscernible) because too much  
14 tensions in the engine room, and I cannot ask for one person  
15 for me to take something on deck. I was doing everything  
16 alone.

17 MR. CURTIS: Had you transferred a lot of the oil?  
18 Was there a lot left to transfer, or?

19 FOURTH ENGINEER SINGHAL: Not too much. I was not  
20 able to transfer too much.

21 MR. CURTIS: You hadn't transferred much?

22 FOURTH ENGINEER SINGHAL: Yes.

23 MR. CURTIS: Do you know how many tons there were  
24 that needed to be transferred, roughly?

25 FOURTH ENGINEER SINGHAL: Around 45 tons.

1                   MR. CURTIS:  So, you needed to transfer about 45  
2   tons --

3                   FOURTH ENGINEER SINGHAL:  Yes, sir.

4                   MR. CURTIS:  -- and you didn't get much  
5   transferred?

6                   FOURTH ENGINEER SINGHAL:  Yes, sir, I was not able  
7   to do so, because --

8                   MR. CURTIS:  Okay, I'm just trying to get a good  
9   detail.

10                  FOURTH ENGINEER SINGHAL:  There was plenty of  
11   (indiscernible) going on at that time, so --

12                  MR. CURTIS:  Right.

13                  FOURTH ENGINEER SINGHAL:  -- I have to go up to  
14   the main deck to take (indiscernible).  Then, again, come  
15   down.

16                  MR. CURTIS:  So, you stopped the transfer at that  
17   point, and went back to work with the others?

18                  FOURTH ENGINEER SINGHAL:  Yes, sir.

19                  MR. CURTIS:  Sorry to interrupt, but before you go  
20   any further, I just want to get a time when -- at time when  
21   they -- you don't recall when they stopped the night before,  
22   but what time did they start again in the morning, working  
23   on number six?

24                  FOURTH ENGINEER SINGHAL:  I don't remember the  
25   time.

1               MR. CURTIS: You mentioned you came back -- you  
2 got called around 9 o'clock to come down?

3               FOURTH ENGINEER SINGHAL: I came down 9 o'clock,  
4 but I don't know what time they started.

5               MR. CURTIS: Okay.

6               FOURTH ENGINEER SINGHAL: Because I was not  
7 present at that time.

8               MR. CURTIS: Okay, we'll pick it up now. Okay,  
9 you stopped transferring oil. Now, let's continue on with  
10 what you did after that and I apologize for interrupting.

11              FOURTH ENGINEER SINGHAL: Then, sir, after that it  
12 was very difficult to put the cylinder head in place,  
13 because weather conditions were very bad at that time. So,  
14 I think ten ropes all around we tied, and then it took us  
15 long time to put the cylinder head in place, and then at the  
16 same time, I have paging from the captain that all the  
17 (indiscernible) everything goes to the (indiscernible) port  
18 side. Port side, some chopper is waiting for them. You  
19 have to leave the ship immediately with a small  
20 (indiscernible) or something like that (indiscernible).

21              MR. CURTIS: Okay.

22              FOURTH ENGINEER SINGHAL: And then some of the  
23 crew left. Now, the situation become worse, because of  
24 working hands become half. So, after that we managed to put  
25 that in place, and as we worked, I think, are knots needs to

1 be put there around 20 or 20 big knots we have to put on the  
2 cylinder head.

3 As we put those knots, we heard another paging  
4 that second chopper is standby, so please immediately leave  
5 all the (indiscernible) staff except chief engineer, second  
6 engineer, electrical officer, and captain, chief officer,  
7 third officer (indiscernible) and so I was getting really  
8 scared, so I went up.

9 I went to my cabin immediately. I took my life  
10 jacket and helmet, and my handbag was lying over there in  
11 which -- and my documents and light carry bag  
12 (indiscernible).

13 MR. CURTIS: Okay.

14 FOURTH ENGINEER SINGHAL: Then, after that the  
15 U.S. Coast Guard picked us up, and bring to (indiscernible)  
16 to Dutch Harbor.

17 MR. CURTIS: They took you to Dutch Harbor?

18 FOURTH ENGINEER SINGHAL: Yes, sir.

19 MR. CURTIS: Okay, so, you went up on the deck and  
20 somebody told you to get into the helicopter at that point?

21 When you got up on the deck, explain to me what happened up  
22 there. Once you got up on deck with your life jacket and  
23 your bag, just explain how you got on the helicopter.

24 FOURTH ENGINEER SINGHAL: Sir, I think  
25 (indiscernible) was there. I don't remember because I was

1 (indiscernible) at that time. It's one of these things  
2 (indiscernible) turning my life.

3 MR. CURTIS: Yes.

4 FOURTH ENGINEER SINGHAL: In order for me holding  
5 my life, so, I don't know what is going on. So, I ask  
6 (indiscernible). I think he told me that U.S. Coast Guard,  
7 for our safety, they were transferring us from  
8 (indiscernible).

9 MR. CURTIS: Okay.

10 FOURTH ENGINEER SINGHAL: (Indiscernible.)

11 MR. CURTIS: When you -- what do they use to pick  
12 you up with? A basket?

13 FOURTH ENGINEER SINGHAL: Yes, sir, it's a basket  
14 (indiscernible).

15 MR. CURTIS: Did you -- you had your life jacket  
16 on?

17 FOURTH ENGINEER SINGHAL: Yes, sir, I was having  
18 the helmet on too.

19 MR. CURTIS: Once you got up into the helicopter,  
20 did they -- were you strapped in, or were you just sitting  
21 in the helicopter?

22 FOURTH ENGINEER SINGHAL: I was just sitting in  
23 the helicopter. I was never strapped.

24 MR. CURTIS: Was any of the crew members strapped  
25 in?

1           FOURTH ENGINEER SINGHAL: No, sir.

2           MR. CURTIS: We're just going to go back and get  
3 some questions along the way there. First of all, the  
4 ship's generators, how many generators were there?

5           FOURTH ENGINEER SINGHAL: Three, sir.

6           MR. CURTIS: Three generators?

7           FOURTH ENGINEER SINGHAL: Yes, sir.

8           MR. CURTIS: How many do you typically run at any  
9 time?

10          FOURTH ENGINEER SINGHAL: Sir, one.

11          MR. CURTIS: Just one, run one?

12          FOURTH ENGINEER SINGHAL: Yes, sir.

13          MR. CURTIS: Which number of generators were  
14 running this day?

15          FOURTH ENGINEER SINGHAL: Number two, sir.

16          MR. CURTIS: Number two? Question about the log  
17 books, you know, we would try to get the engine book. Do  
18 you know if the engine log book was brought off the vessel?

19          FOURTH ENGINEER SINGHAL: No, sir, I don't know  
20 that.

21          MR. CURTIS: Where were the older log books kept?

22          FOURTH ENGINEER SINGHAL: In chief engineer's  
23 (indiscernible).

24          MR. CURTIS: In the chief engineer's --

25          FOURTH ENGINEER SINGHAL: I presume, I'm not sure

1 about it.

2 MR. CURTIS: In his office, you think?

3 FOURTH ENGINEER SINGHAL: Yes, I think in his  
4 office.

5 MR. CURTIS: You mentioned the pressure, the  
6 12,000, the 12,700?

7 FOURTH ENGINEER SINGHAL: Yeah, that's right.

8 MR. CURTIS: 12,000 --

9 FOURTH ENGINEER SINGHAL: Turbo charger rpm.

10 MR. CURTIS Turbo charger rpm?

11 FOURTH ENGINEER SINGHAL: Yes, sir.

12 MR. CURTIS: Oh, okay. You mentioned you had to  
13 isolate some of these connections to blank them off. The  
14 spring air, what's the spring air?

15 FOURTH ENGINEER SINGHAL: It's -- this is a  
16 control air which is used for opening the vault.

17 MR. CURTIS: Okay.

18 FOURTH ENGINEER SINGHAL: Open exhaust vault to  
19 (indiscernible) that exhaust from the (indiscernible) from  
20 the main engine, sir.

21 MR. CURTIS: The safety air?

22 FOURTH ENGINEER SINGHAL: It's the safety  
23 (indiscernible). I don't know much about it.

24 MR. CURTIS: You mentioned the second engineer, he  
25 took some pictures?

1           FOURTH ENGINEER SINGHAL:   Second officer.

2           MR. CURTIS:   Second officer took --

3           FOURTH ENGINEER SINGHAL:   Second officer.

4           MR. CURTIS:   Oh, second officer took the pictures?

5           FOURTH ENGINEER SINGHAL:   (indiscernible) about  
6 the condition of the (indiscernible).

7           MR. CURTIS:   Do you know what they did with those  
8 pictures?

9           FOURTH ENGINEER SINGHAL:   I don't know.

10          MR. CURTIS:   Just bear with me.   I'm jumping  
11 around here.   The chief engineer and the second engineer,  
12 did they ever take a break from the time this happened, noon  
13 time, did they ever stop working?

14          FOURTH ENGINEER SINGHAL:   No, sir, they never  
15 stopped.

16          MR. CURTIS:   They were down there all the time?

17          FOURTH ENGINEER SINGHAL:   They were down all the  
18 time, sir.   That's what I heard, because I went up for some  
19 (indiscernible), but they were always there.   I heard that.

20          MR. CURTIS:   How did -- did you see them appear  
21 really tired towards the end, or did they -- how did they  
22 seem to be doing with all this work?

23          FOURTH ENGINEER SINGHAL:   They were too  
24 (indiscernible) and they want to fix engine as soon as  
25 possible.

1           MR. CURTIS: I'm just trying to get a feel for how  
2 they --

3           FOURTH ENGINEER SINGHAL: Yes, sir.

4           MR. CURTIS: -- because they stayed up a long  
5 time, two days, pretty much.

6           FOURTH ENGINEER SINGHAL: Yes, sir, they were too  
7 much emphasis to get -- they were very sad that --

8           MR. CURTIS: Yeah, I'm sure -- it sounded like  
9 they were up all that time. So, when you went up, they were  
10 still working on it?

11          FOURTH ENGINEER SINGHAL: Yes, sir.

12          MR. CURTIS: Did you ever hear from any of them,  
13 or anybody how close they were to getting finished?

14          FOURTH ENGINEER SINGHAL: No, sir, after that I  
15 did not meet anybody.

16          MR. CURTIS: So, you never saw the chief or the  
17 second engineer after you left the engine room?

18          FOURTH ENGINEER SINGHAL: No, sir.

19          MR. CURTIS: In the past, have you seen this type  
20 of problem with the engines? Have you had this type of  
21 problem?

22          FOURTH ENGINEER SINGHAL: No, sir.

23          MR. CURTIS: No? You don't recall a time when the  
24 engines -- were they reliable? Did you have a lot of break  
25 downs with these engines, or any break downs in the past of

1     this nature?

2                   FOURTH ENGINEER SINGHAL:   It's because I

3     (indiscernible).

4                   MR. CURTIS:   On the last ship?

5                   FOURTH ENGINEER SINGHAL:   (Indiscernible.)

6                   MR. CURTIS:   But not on this ship?

7                   FOURTH ENGINEER SINGHAL:   Not on this ship.

8                   MR. CURTIS:   So, these engines are pretty

9     reliable?

10                  FOURTH ENGINEER SINGHAL:   Yes, sir.

11                  MR. CURTIS:   And this problem hadn't happened

12     before that you'd seen on here?

13                  FOURTH ENGINEER SINGHAL:   No, no, no, sir, I'd

14     never seen this kind of problem.

15                  MR. CURTIS:   What's this burn for fuel?  Is this

16     heavy fuel?  Light fuel?

17                  FOURTH ENGINEER SINGHAL:   Heavy fuel, sir.

18                  MR. CURTIS:   It burns all heavy fuel?

19                  FOURTH ENGINEER SINGHAL:   Yes, sir,

20     (indiscernible) 380 Sentastoga (phonetic sp.).

21                  MR. CURTIS:   380 Sentastoga?  Do the generators,

22     what do they burn?

23                  FOURTH ENGINEER SINGHAL:   Sir, heavy oil.

24                  MR. CURTIS:   It's all heavy oil?  Do you burn

25     light oil when you get into port, or is it always heavy oil?

1           FOURTH ENGINEER SINGHAL: Sir, only when we reach  
2 the port we change main engine to (indiscernible).

3           MR. CURTIS: Diesel oil, okay. So, when you get  
4 into port, you go to light diesel oil in the main engines?

5           FOURTH ENGINEER SINGHAL: Well, first off, whole  
6 system with diesel oil, sir.

7           MR. CURTIS: Okay.

8           FOURTH ENGINEER SINGHAL: You take out all the  
9 heavy oil from the line.

10          MR. CURTIS: Right.

11          FOURTH ENGINEER SINGHAL: Our generators was on  
12 heavy oil, sir.

13          MR. CURTIS: So, in port, the main engine --

14          FOURTH ENGINEER SINGHAL: Port also, sir. In  
15 port, all the generators were on heavy.

16          MR. CURTIS: In port, you flush them?

17          FOURTH ENGINEER SINGHAL: Only main engine we were  
18 flushing. Generators are always on (indiscernible).

19          MR. CURTIS: Because we didn't get a chance to get  
20 on the vessel, we just need some information. Did they use  
21 bridge control?

22          FOURTH ENGINEER SINGHAL: Bridge control.

23          MR. CURTIS: Is in bridge control?

24          FOURTH ENGINEER SINGHAL: Yes, sir.

25          MR. CURTIS: What type of a -- I understand it was

1 a in line six cylinder?

2 FOURTH ENGINEER SINGHAL: In lines, in line?

3 MR. CURTIS: Okay, yeah.

4 FOURTH ENGINEER SINGHAL: That's in line. It's in

5 line, sir.

6 MR. CURTIS: Okay.

7 FOURTH ENGINEER SINGHAL: In line, six cylinder.

8 MR. CURTIS: Two stroke?

9 FOURTH ENGINEER SINGHAL: Two stroke.

10 MR. CURTIS: What type of a clutch did they have?

11 FOURTH ENGINEER SINGHAL: Clutch? I don't --

12 MR. CURTIS: Where the engine hooks to the shaft?

13 Could you disengage the clutch?

14 FOURTH ENGINEER SINGHAL: No, no, no, sir. This

15 is a slow speed engine.

16 MR. CURTIS: Oh, okay. What was the operating

17 speed, you said?

18 FOURTH ENGINEER SINGHAL: 86 rpm's.

19 MR. CURTIS: 86 full speed ahead?

20 FOURTH ENGINEER SINGHAL: Yes, sir.

21 MR. CURTIS: What would slow ahead be, rpm?

22 FOURTH ENGINEER SINGHAL: Twenty, 25 to 30.

23 MR. CURTIS: Another thing, I guess in heavy

24 weather, you had to slow down once in a while?

25 FOURTH ENGINEER SINGHAL: Yes, one time it went

1 over the speed slow down, because vessel was too much  
2 rolling (indiscernible). So, I think propellor come out of  
3 the motor, and over speed slow down was there.

4 MR. CURTIS: What did you do? Did they slow the  
5 ship down?

6 FOURTH ENGINEER SINGHAL: Automatic slow down,  
7 sir.

8 MR. CURTIS: Automatic slow down?

9 FOURTH ENGINEER SINGHAL: Yes, sir.

10 MR. CURTIS: Did you have directions in the engine  
11 room, if it got too rough, or anything, to slow down?

12 FOURTH ENGINEER SINGHAL: Yes, sir, chief  
13 engineer's given us deadline that never exceed  
14 (indiscernible) charger rpm beyond 1200, 300 --

15 MR. CURTIS: Okay.

16 FOURTH ENGINEER SINGHAL: -- and those should  
17 never be -- exceed 72.

18 MR. CURTIS: Seventy-two? What's 72?

19 FOURTH ENGINEER SINGHAL: Uh.

20 MR. CURTIS: Speed?

21 FOURTH ENGINEER SINGHAL: Seventy's a -- I think,  
22 position of the fuel pump, fuel direction.

23 MR. CURTIS: Okay.

24 FOURTH ENGINEER SINGHAL: There is a  
25 (indiscernible) indicator (indiscernible) in the control

1 room.

2 MR. CURTIS: The main engine was a BMW, is that  
3 correct?

4 FOURTH ENGINEER SINGHAL: Yes, sir.

5 MR. CURTIS: Did the chief ever get any  
6 information from BMW to help you out in this problem?

7 FOURTH ENGINEER SINGHAL: I heard that sir, but  
8 I'm not sure where did I heard that. That they are in  
9 constant touch with the company, and company's contacting  
10 the makers, and whatever they can get them from. Whatever  
11 they are telling them, they are informing us. So, probably,  
12 we were working on that.

13 MR. CURTIS: Did you ever see this information  
14 they got to you?

15 FOURTH ENGINEER SINGHAL: I've never seen any  
16 (indiscernible).

17 MR. CURTIS: They made the decision to stop out  
18 there. You were leaking water out of that cylinder?

19 FOURTH ENGINEER SINGHAL: Yes, sir.

20 MR. CURTIS: I just wonder, if you kept going, how  
21 long could you have gone with a leak like that? What do you  
22 think?

23 FOURTH ENGINEER SINGHAL: We cannot go with a leak  
24 like that sir.

25 MR. CURTIS: Was it a bad leak?

1           FOURTH ENGINEER SINGHAL: Yes, sir, the crack was  
2 on (indiscernible).

3           MR. CURTIS: Could you see the crack?

4           FOURTH ENGINEER SINGHAL: Yeah, we can see the  
5 crack.

6           MR. CURTIS: So, a lot of water was coming out?

7           FOURTH ENGINEER SINGHAL: It was coming out.

8           MR. CURTIS: You have a head tank of water?

9           FOURTH ENGINEER SINGHAL: (Indiscernible.)

10          MR. CURTIS: Were you using that up quickly?

11          FOURTH ENGINEER SINGHAL: Yes, sir, it will drain  
12 down relatively -- it will continue with that.

13          MR. CURTIS: How long -- I realize it's a  
14 difficult question, how long do you think, if you kept  
15 running, it would've taken to drain the head tank down?

16          FOURTH ENGINEER SINGHAL: Sir, I cannot answer  
17 this. I don't know.

18          MR. CURTIS: Uh-huh.

19          FOURTH ENGINEER SINGHAL: Our normal  
20 (indiscernible).

21          MR. CURTIS: But you -- so you were in a situation  
22 that you probably wouldn't want to leave the engine running?

23          FOURTH ENGINEER SINGHAL: You cannot leave engine  
24 running, sir. I feel it that way.

25          MR. CURTIS: Did the captain come down in the

1 engine room to look at the engine?

2                   FOURTH ENGINEER SINGHAL: I think so, one time he  
3 came down.

4                   MR. CURTIS: Did you see him down there?

5                   FOURTH ENGINEER SINGHAL: I saw him one time I  
6 remember.

7                   MR. CURTIS: Were you involved in the  
8 discussion --

9                   FOURTH ENGINEER SINGHAL: No, sir, I --

10                  MR. CURTIS: -- I guess he was talking to who?

11                  FOURTH ENGINEER SINGHAL: Chief engineer and  
12 second engineer (indiscernible).

13                  MR. CURTIS: Did the chief say anything about the  
14 decision that they were going to stop the engine? What did  
15 the chief tell you about that?

16                  FOURTH ENGINEER SINGHAL: Sir, actually, time was  
17 too less, and I did not get any chance to communicate with  
18 them. So, he was -- chief engineer and second engineer were  
19 discussing it. Second engineer was (indiscernible). He was  
20 dividing us in groups. Okay, you see at the top, you go to  
21 the crankcase.

22                  MR. CURTIS: Okay.

23                  FOURTH ENGINEER SINGHAL: They were doing in  
24 groups. We were working in groups. So, I don't know.

25                  MR. CURTIS: That's an area that we want to get

1     into, the groups. I heard it before. Who was in who's  
2     group? Who was in your group?

3                 FOURTH ENGINEER SINGHAL: Sir, I was working on  
4     the top. So, myself, was there. I saw second engineer was  
5     there. Oiler was also there. I think (indiscernible) was  
6     down with, and one (indiscernible) was there.

7                 MR. CURTIS: Okay.

8                 FOURTH ENGINEER SINGHAL: I, exactly, I cannot  
9     tell which (indiscernible) was there, and one  
10    (indiscernible) was there, and second engineer, myself, and  
11    one oiler, sir.

12                MR. CURTIS: So, these two groups, they weren't  
13    working at different times, they were just working in  
14    different locations?

15                FOURTH ENGINEER SINGHAL: Locations, sir.

16                MR. CURTIS: Okay.

17                FOURTH ENGINEER SINGHAL: But second engineer  
18    already sure that if somebody wants rest, he can leaving for  
19    one or two, or three hours, like he left me for four, five  
20    hours. Next, in the morning, and then I came in 9 o'clock  
21    (indiscernible).

22                MR. CURTIS: The chief engineer, as the day went  
23    on, and you were getting closer to shore, did he mention  
24    anything that we need to hurry up, or we're getting close to  
25    shore? Did he ever mention that to you?

1                   FOURTH ENGINEER SINGHAL: Yes, sir, I think so.  
2 He was (indiscernible).

3                   MR. CURTIS: Generally, what did he say about  
4 that?

5                   FOURTH ENGINEER SINGHAL: He told me that -- he  
6 told us in the control room. I was present, second engineer  
7 was present, chief engineer was present, and one more person  
8 was present. He told us that -- he told us  
9 that -- electrical officer was there then. He told us this  
10 the U.S. Coast Guard is coming in the afternoon to pick us  
11 up, because we are heading towards the shore, and there was  
12 some chancing of grounding. So, we were to hurry up  
13 (indiscernible). It means we are to do as fast as we can so  
14 that we can start the engine.

15                  MR. CURTIS: Okay.

16                  FOURTH ENGINEER SINGHAL: That's what I heard from  
17 him.

18                  MR. CURTIS: That's all you discussed that -- what  
19 time was that approximately? I know it's difficult.

20                  FOURTH ENGINEER SINGHAL: Also that he told me  
21 that we have to (indiscernible). Before that he worked  
22 (indiscernible) discussing all these things.

23                  MR. CURTIS: That was that morning of the 8th?

24                  FOURTH ENGINEER SINGHAL: Yes, sir.

25                  MR. CURTIS: Wednesday morning?

1                   FOURTH ENGINEER SINGHAL: Yes, sir.

2                   MR. CURTIS: Was that earlier in the morning, do  
3 you remember?

4                   FOURTH ENGINEER SINGHAL: Not early in the morning  
5 Wednesday.

6                   MR. CURTIS: Okay.

7                   FOURTH ENGINEER SINGHAL: Maybe 9 o'clock or 10  
8 o'clock.

9                   MR. CURTIS: Anuj, I was going to pass it along.  
10 Would you like to take a little break, or do you want to  
11 keep going?

12                  FOURTH ENGINEER SINGHAL: Keep going, sir.

13                  MR. CURTIS: Keep going? Okay, just identify  
14 ourselves as we go around.

15                  CAPTAIN LEW KWOK YUE: Captain Lew, of IMC. You  
16 mentioned that your normal duty, after coming out from  
17 Seattle, was also to look at the purifier, because you were  
18 concerned that there was (indiscernible). Could you  
19 elaborate more on the purifier, itself, when you mentioned  
20 that it's dropped down itself?

21                  FOURTH ENGINEER SINGHAL: It means (indiscernible)  
22 said that any problem with purifier?

23                  CAPTAIN LEW KWOK YUE: No, you mentioned that you  
24 wanted to make sure that purifier was in good condition, was  
25 running smoothly, because there was recently repair

1 (indiscernible)?

2 FOURTH ENGINEER SINGHAL: Yes, sir.

3 CAPTAIN LEW KWOK YUE: Well, was it repaired by  
4 your staff, or by --

5 FOURTH ENGINEER SINGHAL: No, no, no, it was  
6 repaired by one of the technician in Seattle.

7 CAPTAIN LEW KWOK YUE: Repaired by technician?

8 FOURTH ENGINEER SINGHAL: He came all the way from  
9 Los Angeles.

10 CAPTAIN LEW KWOK YUE: Technician, Seattle? What  
11 was wrong with it in the first place? If you  
12 (indiscernible)?

13 FOURTH ENGINEER SINGHAL: It's -- we had opened it  
14 for routine maintenance, and after boxing it up, it was not  
15 running properly. So, when -- after checking everything,  
16 when we were not able to fix it up, so, I think chief  
17 engineer has contacted a company, and they send one  
18 technician in Seattle.

19 CAPTAIN LEW KWOK YUE: This was while the ship was  
20 in Seattle --

21 FOURTH ENGINEER SINGHAL: Seattle.

22 CAPTAIN LEW KWOK YUE: -- or before Seattle, when  
23 you all opened it up, and found that it was not running  
24 properly?

25 FOURTH ENGINEER SINGHAL: Sir, when we had opened

1 it in China.

2 CAPTAIN LEW KWOK YUE: In China?

3 FOURTH ENGINEER SINGHAL: Yes, sir, and after that  
4 we did not get time, because we were already  
5 (indiscernible). So, after the second engineer and third  
6 engineer also checked (indiscernible). Not -- the third  
7 engineer did not check, sir. I think second engineer came  
8 down to help me out in that matter.

9 CAPTAIN LEW KWOK YUE: That was in China, itself?

10 FOURTH ENGINEER SINGHAL: No, no, after China,  
11 sir.

12 CAPTAIN LEW KWOK YUE: After China?

13 FOURTH ENGINEER SINGHAL: Yes, sir.

14 CAPTAIN LEW KWOK YUE: While the ship was going  
15 across --

16 FOURTH ENGINEER SINGHAL: Yes, sir.

17 CAPTAIN LEW KWOK YUE: -- the Pacific Ocean for  
18 Seattle, itself?

19 FOURTH ENGINEER SINGHAL: Yes, sir. At that time  
20 second engineer and myself opened up the purifier to recheck  
21 it, but we were not able to find any problem. So, in  
22 Seattle, one of the technician came and he opened up the  
23 purifier. He checked it, and he has got (indiscernible)  
24 service (indiscernible) from his company. I think it was  
25 asked by the chief engineer, and then when he opened, he was

1 not -- I asked him what is the problem? He told me,  
2 according to him, he is not able to find out the problem.

3 So, he told to the chief engineer, we will change  
4 all the O rings, small flux seal ring, and we will try all  
5 of, because we don't know what is the problem, but after  
6 changing all the new O rings supplied by the (indiscernible)  
7 and after boxing it up, and we try it out, it was running  
8 perfectly, sir.

9 CAPTAIN LEW KWOK YUE: How many purifiers are  
10 there (indiscernible)?

11 FOURTH ENGINEER SINGHAL: Sir, we have got two  
12 fuel oil purifier.

13 CAPTAIN LEW KWOK YUE: Two fuel --

14 FOURTH ENGINEER SINGHAL: (Indiscernible) this  
15 problem are one number two purifier.

16 CAPTAIN LEW KWOK YUE: Were you running it in  
17 parallel --

18 FOURTH ENGINEER SINGHAL: Yes, sir.

19 CAPTAIN LEW KWOK YUE: -- as a purifier --

20 FOURTH ENGINEER SINGHAL: No, no, no.

21 CAPTAIN LEW KWOK YUE: -- or clarifier, itself?

22 FOURTH ENGINEER SINGHAL: No, sir, there are  
23 three. These two are clarifiers not purifiers --

24 CAPTAIN LEW KWOK YUE: Okay.

25 FOURTH ENGINEER SINGHAL: -- and we don't have any

1 -- they are (indiscernible).

2 CAPTAIN LEW KWOK YUE: Okay.

3 FOURTH ENGINEER SINGHAL: So, sir, after fixing it  
4 up from 28 (indiscernible) he ran number two purifier --

5 CAPTAIN LEW KWOK YUE: Okay.

6 FOURTH ENGINEER SINGHAL: -- because I want to  
7 check whether it is running properly or not.

8 CAPTAIN LEW KWOK YUE: Okay.

9 FOURTH ENGINEER SINGHAL: On fourth morning, the -  
10 - one of the bearing, water bearing, first bearing of the  
11 vertical shaft --

12 CAPTAIN LEW KWOK YUE: First bearing --

13 FOURTH ENGINEER SINGHAL: -- bottom one.

14 CAPTAIN LEW KWOK YUE: -- bottom one trust bearing,  
15 okay.

16 FOURTH ENGINEER SINGHAL: Yes, sir, it broke down.

17 So, I --

18 CAPTAIN LEW KWOK YUE: On the 24th is it?

19 FOURTH ENGINEER SINGHAL: No, sir, fourth of  
20 December.

21 CAPTAIN LEW KWOK YUE: Fourth of December?

22 FOURTH ENGINEER SINGHAL: Yes, sir, morning 8  
23 o'clock. So, there I have to start this purifier --

24 CAPTAIN LEW KWOK YUE: Yeah.

25 FOURTH ENGINEER SINGHAL: -- and I started -- I

1 switch over to another purifier, sir --

2 CAPTAIN LEW KWOK YUE: Okay.

3 FOURTH ENGINEER SINGHAL: -- and during that whole  
4 day, I took out the vertical shaft. I changed water  
5 bearings, and on the same day, evening, I was able to finish  
6 the job, and I (indiscernible) started the same purifier.  
7 So, sir, on eighth morning -- on sixth morning, means on  
8 seventh and eighth, every day, my watch, I was turning  
9 (indiscernible) the purifier for about 20 or 25 minutes to  
10 observe all the parameters and the conditions, because it  
11 has been just simply (indiscernible).

12 CAPTAIN LEW KWOK YUE: When you were in Seattle,  
13 was there any activities going on besides this repairs and  
14 all these things, itself? Besides this purifier?

15 FOURTH ENGINEER SINGHAL: The activity was  
16 (indiscernible) sir. Number one (indiscernible).

17 CAPTAIN LEW KWOK YUE: Okay.

18 FOURTH ENGINEER SINGHAL: (Indiscernible) was in  
19 it as well. (Indiscernible) both the operator and condenser  
20 site so clean. Sir, after engine coolers, after  
21 (indiscernible) sea water cooler so clean, sir.

22 CAPTAIN LEW KWOK YUE: Okay, when you overhaul  
23 number one unit, generally, the condition was?

24 FOURTH ENGINEER SINGHAL: Not so much that not too  
25 much carbon, sir.

1           CAPTAIN LEW KWOK YUE: Did you know any reason why  
2 they overhaul number one?

3           FOURTH ENGINEER SINGHAL: Sir, running out of -- I  
4 think because they're running out. We were about to  
5 complete the running out, the (indiscernible) engine as  
6 well.

7           CAPTAIN LEW KWOK YUE: The (indiscernible) engine  
8 as well. Okay, when you came out of Seattle --

9           FOURTH ENGINEER SINGHAL: And Sunday was a Coast  
10 Guard inspection also in Seattle.

11          CAPTAIN LEW KWOK YUE: Coast Guard inspection.

12          FOURTH ENGINEER SINGHAL: U.S. Coast Guard.

13          CAPTAIN LEW KWOK YUE: Any deficiency or any things  
14 that was noted, or anything like that?

15          FOURTH ENGINEER SINGHAL: From Seattle to --

16          CAPTAIN LEW KWOK YUE: Yeah, no, no, in the Coast  
17 Guard inspection?

18          FOURTH ENGINEER SINGHAL: No, sir, I did not hear  
19 about that --

20          CAPTAIN LEW KWOK YUE: Nothing then?

21          FOURTH ENGINEER SINGHAL: -- because there were  
22 two groups. One was Coast Guard group, they conducted  
23 drills and all (indiscernible) then they check all the  
24 (indiscernible). Then, once some oil spilled  
25 (indiscernible). Actually, they know exactly who he was,

1    then he checked all the (indiscernible) then he check this  
2    incinerator, and then he check -- he went near all that  
3    (indiscernible) tanks, (indiscernible) tanks, and finally,  
4    he said okay.

5               CAPTAIN LEW KWOK YUE: Okay, so, on the way, while  
6    you are -- after departure from Seattle, did you experience  
7    any abnormality on the main engine or the turbo charger  
8    itself?

9               FOURTH ENGINEER SINGHAL: Sir, one other time it  
10   (indiscernible). It was on --

11              CAPTAIN LEW KWOK YUE: One time you search.

12              FOURTH ENGINEER SINGHAL: -- (indiscernible) from  
13   the (indiscernible) sir.

14              CAPTAIN LEW KWOK YUE: Did you know, by that time,  
15   what was the lubricator that you are put on your  
16   (indiscernible). I know you (indiscernible) at 7:58  
17   (indiscernible).

18              FOURTH ENGINEER SINGHAL: (Indiscernible) 72, but  
19   sir, whenever there was a rolling means I think broken  
20   (indiscernible) water, sir. Then, chief engineer, in that  
21   case, if there is (indiscernible) off then he use to reduce  
22   the rpm by (indiscernible), sir.

23              CAPTAIN LEW KWOK YUE: Was the turbo charges still  
24   at 12,000 rpm (indiscernible)?

25              FOURTH ENGINEER SINGHAL: Yes, sir.

1 CAPTAIN LEW KWOK YUE: Whenever you're reduced  
2 down, itself?

3 FOURTH ENGINEER SINGHAL: Yes, sir,  
4 (indiscernible) means it was a deadline given to us by chief  
5 engineer that you had to maintain such a speed that turbo  
6 charger rpm should not go (indiscernible) 300, and  
7 lower -- it should not go beyond 72.

8 CAPTAIN LEW KWOK YUE: Okay.

9 FOURTH ENGINEER SINGHAL: That was our deadline  
10 give us to all (indiscernible) chief engineer  
11 (indiscernible).

12 CAPTAIN LEW KWOK YUE: So, at no time, it went  
13 beyond any of these parameters?

14 FOURTH ENGINEER SINGHAL: No, no, sir, we were all  
15 keeping an eye on it.

16 CAPTAIN LEW KWOK YUE: Even when surging and  
17 rolling --

18 FOURTH ENGINEER SINGHAL: Surging, and all --

19 CAPTAIN LEW KWOK YUE: -- and all these things?

20 FOURTH ENGINEER SINGHAL: -- rolling, yes, sir.

21 CAPTAIN LEW KWOK YUE: When you said the liner  
22 crack in number one?

23 FOURTH ENGINEER SINGHAL: Number three, sir.

24 CAPTAIN LEW KWOK YUE: Number three, sorry. Can  
25 you describe more how the direction of liner's crack? Was

1 it on the main line, or the opposite? (Indiscernible) when  
2 it goes down, and then straight or angle? How it goes  
3 through (indiscernible)?

4 FOURTH ENGINEER SINGHAL: Sir, approximately, it  
5 was an angle of 44 degrees from port sides to  
6 (indiscernible) and it was a vertical crack on the collar of  
7 the liner, which was (indiscernible). I can draw  
8 (indiscernible).

9 CAPTAIN LEW KWOK YUE: (Indiscernible) draw on  
10 something there is (indiscernible).

11 MR. CURTIS: Just for the record, Anuj is going to  
12 draw us a diagram. Sort of a description of the crack on  
13 the liner.

14 FOURTH ENGINEER SINGHAL: This is the  
15 (indiscernible) fuel, sir.

16 CAPTAIN LEW KWOK YUE: Uh-huh.

17 FOURTH ENGINEER SINGHAL: If you're looking from  
18 the top, there's a cylinder head,

19 CAPTAIN LEW KWOK YUE: Uh-huh.

20 FOURTH ENGINEER SINGHAL: -- and this is port  
21 side. This is (indiscernible) and some (indiscernible)  
22 here. It was a vertical line on the collar.

23 CAPTAIN LEW KWOK YUE: Uh-huh.

24 FOURTH ENGINEER SINGHAL: If you are looking from  
25 the top, it will be only a point, but if --

1 CAPTAIN LEW KWOK YUE: (Indiscernible.)

2 FOURTH ENGINEER SINGHAL: -- if you make it  
3 something like this. Set is somewhere like this, vertical.

4 MR. CURTIS: On this picture, which we're going to  
5 call figure one, you could see down on the side of the  
6 engine? You could see the crack, or just on the top of the  
7 line?

8 FOURTH ENGINEER SINGHAL: If I am standing in  
9 front of the cylinder head number three, I can see the crack  
10 vertically downwards.

11 MR. CURTIS: Okay, great, and just for the record,  
12 this will be Figure No. 1.

13 (Figure No. 1 was marked  
14 for identification.)

15 CAPTAIN LEW KWOK YUE: You have seen a lot of  
16 water coming up, isn't it?

17 FOURTH ENGINEER SINGHAL: Yes, sir, but it was  
18 already fine crack.

19 CAPTAIN LEW KWOK YUE: Fine crack?

20 FOURTH ENGINEER SINGHAL: On the collar of the  
21 liner, which rest on the jacket.

22 CAPTAIN LEW KWOK YUE: Was the collar cracked or  
23 anything like that?

24 FOURTH ENGINEER SINGHAL: Yes, sir, I --

25 CAPTAIN LEW KWOK YUE: Collar also cracked, or so?

1               FOURTH ENGINEER SINGHAL:  -- yeah, this collar  
2 means --

3               CAPTAIN LEW KWOK YUE:  Yeah (indiscernible) --

4               FOURTH ENGINEER SINGHAL:  -- the collar, which is  
5 secured on the (indiscernible) --

6               CAPTAIN LEW KWOK YUE:  Correct, correct.

7               FOURTH ENGINEER SINGHAL:  -- and on the top of  
8 this collar, cylinder head's secured --

9               CAPTAIN LEW KWOK YUE:  Okay.

10              FOURTH ENGINEER SINGHAL:  -- and we  
11 (indiscernible) --

12              CAPTAIN LEW KWOK YUE:  Okay, and (indiscernible)  
13 the jacket (indiscernible) --

14              FOURTH ENGINEER SINGHAL:  -- and we noticed there  
15 (indiscernible).

16              CAPTAIN LEW KWOK YUE:  Uh-huh, okay.

17              MR. HOWELLS:  This is Darrell Howells.  When you  
18 were talking about the surges, can you give me,  
19 approximately, how many rpms?  How much of a surge, roughly?

20              FOURTH ENGINEER SINGHAL:  (Indiscernible) 11,000  
21 (indiscernible) 300.

22              MR. HOWELLS:  Thank you.  In the beginning, when  
23 you were talking, you were talking about you were cleaning  
24 the auxiliary seawater pump?

25              FOURTH ENGINEER SINGHAL:  Strainer.

1                   MR. HOWELLS: Oh, strainer, okay, and that  
2 services what?

3                   FOURTH ENGINEER SINGHAL: That's -- this pump is  
4 used for supplying the seawater to generators, and a  
5 (indiscernible) system, and (indiscernible) and this  
6 auxiliary condenser, boiler condenser.

7                   MR. HOWELLS: Did I understand you to say that you  
8 were sent to look for some spares?

9                   FOURTH ENGINEER SINGHAL: Yes, sir.

10                  MR. HOWELLS: And those were spares for?

11                  FOURTH ENGINEER SINGHAL: For (indiscernible)  
12 pumps, because I was making the list of the spares on board,  
13 and what all we need in China.

14                  MR. HOWELLS: Can you tell me who secured the  
15 engine?

16                  FOURTH ENGINEER SINGHAL: I don't know --

17                  MR. HOWELLS: Okay.

18                  FOURTH ENGINEER SINGHAL: -- who secured the  
19 engine.

20                  MR. HOWELLS: When you had to make the blanks  
21 for --

22                  FOURTH ENGINEER SINGHAL: (Indiscernible.)

23                  MR. HOWELLS: Uh-huh, how did you measure that?  
24 Were things taken apart already for you to take --

25                  FOURTH ENGINEER SINGHAL: No.

1           MR. HOWELLS:  -- the measurement, or you just  
2   (indiscernible)?

3           FOURTH ENGINEER SINGHAL:  Actually, the -- there  
4   is a (indiscernible) with supplies there for cranking after  
5   the starting, they're always open.  So, I can take the  
6   (indiscernible) and measure the pipe between two bolts and I  
7   can make it approximately.

8           MR. HOWELLS:  So, nothing was apart when you did  
9   that?

10          FOURTH ENGINEER SINGHAL:  Nothing was apart.

11          MR. HOWELLS:  I think I heard you say that there  
12   was something found in the number six?

13          FOURTH ENGINEER SINGHAL:  Yes, sir, it's small  
14   piece of broken piston there.

15          MR. HOWELLS:  Okay that's right.  Do you recall  
16   when it was decided to wait until calmer weather, do you  
17   recall what that period of time was before the work started  
18   again, or how long they waited?

19          FOURTH ENGINEER SINGHAL:  Sir, I (indiscernible)  
20   told you that I was asked to go up to take some rest --

21          MR. HOWELLS:  Okay.

22          FOURTH ENGINEER SINGHAL:  -- because I was awake  
23   for a long time.

24          MR. HOWELLS:  Sure.

25          FOURTH ENGINEER SINGHAL:  So, I (indiscernible)

1    what period of time they started working in the morning.  I  
2    came down at 9 o'clock in the morning.

3               MR. HOWELLS:  Got you.  So, if I understand  
4    correctly, you were never able to finish transferring the  
5    oil?

6               FOURTH ENGINEER SINGHAL:  Yes, sir.

7               MR. HOWELLS:  And you had been on that ship how  
8    long again?

9               FOURTH ENGINEER SINGHAL:  Sir, three month's, 25  
10   days (indiscernible) I stayed on the boat.  I  
11   (indiscernible).

12              MR. HOWELLS:  Were there any mechanical break  
13   downs between that time and December 6th?

14              FOURTH ENGINEER SINGHAL:  I don't remember.  I  
15   don't think so.  Any major breakdowns like  
16   (indiscernible) --

17              MR. HOWELLS:  No major breakdowns?

18              FOURTH ENGINEER SINGHAL:  -- we have to stop in  
19   the next (indiscernible).

20              MR. HOWELLS:  Okay, that's all I have.

21              MR. CURTIS:  I've got a few more, and we'll go  
22   around once more.  It'll be quicker this time.  I promise  
23   you.  Just some detail.  How often do you change over  
24   generators?

25              FOURTH ENGINEER SINGHAL:  Change over generators,

1 sir, suppose -- this is decided by chief engineer, and I  
2 think third engineer. The generator (indiscernible),  
3 because third engineer is looking after the generator.

4 MR. CURTIS: That's his responsibility?

5 FOURTH ENGINEER SINGHAL: Yes, sir,  
6 (indiscernible) responsibility. So, in case, suppose  
7 somebody -- (indiscernible) they decide which one we have to  
8 (indiscernible). Suppose number two is running, but after  
9 he for some time, some filter has to be clean in order to  
10 maintain the proper pressures and (indiscernible) for new  
11 oil or seawater pressure, and all this. So, we have to  
12 clean seawater, strain it as it has (indiscernible).

13 So, whenever third engineer feel, according to his  
14 (indiscernible) book that he want to change the -- clean the  
15 filters. So, he changes the water from this generator to  
16 another generator, and then he is to clean those filters,  
17 and again, (indiscernible), but this is the decided by him  
18 as (indiscernible) chief engineer. I don't know.

19 MR. CURTIS: Okay.

20 FOURTH ENGINEER SINGHAL: It was -- he's  
21 (indiscernible) but mostly about chief engineer. If you're  
22 know to maintain some particular (indiscernible) for that  
23 particular generator.

24 MR. CURTIS: As fourth engineer, what equipment  
25 were you responsible for?

1           FOURTH ENGINEER SINGHAL: Sir, I was looking after  
2 all the purifiers in engine room, as well as pumps, and I  
3 was assisting chief engineer for (indiscernible) pressures.

4           MR. CURTIS: As far as bunking, where -- the  
5 sounding sheets, did -- were those sent to the office  
6 regularly? Where your fuel was? I'm interested to know how  
7 much fuel was in what tanks. Were those sent to the office  
8 on a regular basis?

9           FOURTH ENGINEER SINGHAL: I don't know that  
10 because this is (indiscernible) chief engineer, sir.

11          MR. CURTIS: Okay.

12          FOURTH ENGINEER SINGHAL: Communication with  
13 office is (indiscernible) not by me. So, I don't know  
14 whether he is sending it or not. I cannot say.

15          MR. CURTIS: I understand. How often did you  
16 sound your tanks?

17          FOURTH ENGINEER SINGHAL: Sir, normally, I was  
18 doing twice a week.

19          MR. CURTIS: Okay.

20          FOURTH ENGINEER SINGHAL: Twice a week.

21          MR. CURTIS: What would you do, would you write  
22 them --

23          FOURTH ENGINEER SINGHAL: Sometimes more than that  
24 (indiscernible) better (indiscernible).

25          MR. CURTIS: Did you write these down on a sheet

1 somewhere?

2                   FOURTH ENGINEER SINGHAL: Yes, sir, in my cabin  
3 there is a file in which, whenever I was taking sounding,  
4 and after that I was calculating the fuel in (indiscernible)  
5 and after that I was logging that paper in my file.

6                   MR. CURTIS: And those files were in the engine  
7 room?

8                   FOURTH ENGINEER SINGHAL: Not in there, in my  
9 cabin, and in chief engineer cabin. One copy I use to give  
10 to him, and one copy is in my cabin, and (indiscernible) so  
11 there (indiscernible).

12                  MR. CURTIS: So, every time you sounded tanks --

13                  FOURTH ENGINEER SINGHAL: Yes, sir.

14                  MR. CURTIS: -- he would get a copy?

15                  FOURTH ENGINEER SINGHAL: Yes, sir.

16                  MR. CURTIS: Do you recall -- when is the last  
17 time you sounded the tanks?

18                  FOURTH ENGINEER SINGHAL: I think departure  
19 Seattle, because after that weather was too rough. So, I  
20 wouldn't want to go in that because it was (indiscernible)  
21 risky.

22                  MR. CURTIS: Do you recall how much fuel you had  
23 on board at departure Seattle?

24                  FOURTH ENGINEER SINGHAL: Yes, sir, around 1,850  
25 tons, I believe. I'm not sure.

1 MR. CURTIS: Roughly?

2 FOURTH ENGINEER SINGHAL: Maybe 50 ton more or  
3 less, but 1,800 we had on. We were (indiscernible).

4 MR. CURTIS: Roughly 1,800 metric tons of fuel on  
5 board?

6 FOURTH ENGINEER SINGHAL: Yes, sir, roughly.

7 MR. CURTIS: And you took fuel in Seattle, is that  
8 correct?

9 FOURTH ENGINEER SINGHAL: Yes, sir, 1,000 metric  
10 tons.

11 MR. CURTIS: One thousand metric tons? When -- I  
12 guess you weren't involved in this conversation. The chief  
13 wanted to stop the engine, the work on it. Did the captain  
14 want to stop, or weren't you involved in that at all?

15 FOURTH ENGINEER SINGHAL: Sir, this I don't know,  
16 sir.

17 MR. CURTIS: You said that the piston -- you found  
18 a part of a broken piston ring. Where was that part sitting  
19 when you found it?

20 FOURTH ENGINEER SINGHAL: It was lying on the  
21 (indiscernible) separating the crankcase, and the  
22 (indiscernible) unit, sir.

23 MR. CURTIS: I just have one last question, and  
24 then I'll pass it around again. The chief engineer, you'd  
25 worked with him awhile, and the second engineer. The chief

1 engineer, how was he as an engineer? He knew the plant  
2 well?

3                   FOURTH ENGINEER SINGHAL: Yes, sir, we were doing  
4 basic -- if you have to do certain maintenance job, sir, so  
5 we were doing all of our homework very well. It was second  
6 engineer, chief engineer use to tell me that we are going to  
7 take out unit in next port. So, this is your first unit on  
8 this ship, so that you can pay for that. If you have got  
9 any problems, you read the maintenance manual. If you have  
10 got any problem, you can come to me any time, in my  
11 cabin --

12                  MR. CURTIS: Good.

13                  FOURTH ENGINEER SINGHAL: -- because it's kept in  
14 my cabin as well in here. So, he was a good engineer I  
15 feel.

16                  MR. CURTIS: And the second?

17                  FOURTH ENGINEER SINGHAL: (Indiscernible) for  
18 that.

19                  MR. CURTIS: Yes that's too bad, and the second,  
20 the second engineer?

21                  FOURTH ENGINEER SINGHAL: He was also very  
22 helpful. If -- in case I've got any problem, or anybody  
23 else is having any problem, he was always there  
24 (indiscernible) person.

25                  MR. CURTIS: Good. Thank you, Captain Lew?

1           CAPTAIN LEW KWOK YUE:  Would you by any chance  
2   know what position the engine stopped in?  So that when  
3   you're firing the time, you're firing (indiscernible).  Do  
4   you understand what I mean?  When your engine stopped, would  
5   you by any chance know what position it stopped in?

6           FOURTH ENGINEER SINGHAL:  (Indiscernible) the  
7   vessel position?

8           CAPTAIN LEW KWOK YUE:  No, not the vessel  
9   position.

10          FOURTH ENGINEER SINGHAL:  Okay.

11          CAPTAIN LEW KWOK YUE:  The main engine itself  
12   (indiscernible).

13          FOURTH ENGINEER SINGHAL:  Okay, no, no, sir that I  
14   (indiscernible) but some time we have to turn the engine --

15          CAPTAIN LEW KWOK YUE:  Yeah, yeah --

16          FOURTH ENGINEER SINGHAL:  -- because --

17          CAPTAIN LEW KWOK YUE:  -- that's not what I mean.

18          FOURTH ENGINEER SINGHAL:  -- what happened that  
19   initially we had blank all the airlines.

20          CAPTAIN LEW KWOK YUE:  Yes?

21          FOURTH ENGINEER SINGHAL:  So, after trying -- then  
22   we were trying, sir, so we have blocked number three unit.  
23   So, we cannot supply air --

24          CAPTAIN LEW KWOK YUE:  Right.

25          FOURTH ENGINEER SINGHAL:  -- if that

1 unit -- cam -- if cam for that particular unit is engaged,  
2 sir. So, in that case, we have to turn the engine to  
3 bring -- to bring the main engine to some other area so that  
4 we can (indiscernible). So that's why it took little bit  
5 more time, sir.

6 CAPTAIN LEW KWOK YUE: Okay, you tried -- you  
7 tried stopping the engine for a few times, isolating the  
8 unit, but you were unsuccessful, you say?

9 FOURTH ENGINEER SINGHAL: Yes, sir.

10 CAPTAIN LEW KWOK YUE: Your air pressure on your  
11 compressor is -- how much was that --

12 FOURTH ENGINEER SINGHAL: (Indiscernible) 29,000.

13 CAPTAIN LEW KWOK YUE: Twenty nine thousand?

14 FOURTH ENGINEER SINGHAL: Yes, sir.

15 CAPTAIN LEW KWOK YUE: Two compressor on board the  
16 ship, and two --

17 FOURTH ENGINEER SINGHAL: Yes, sir.

18 CAPTAIN LEW KWOK YUE: -- chamber itself?

19 FOURTH ENGINEER SINGHAL: Yes, sir, two bottles  
20 and two compressors, sir.

21 CAPTAIN LEW KWOK YUE: So, after firing a few  
22 times, you all stopped, because --

23 FOURTH ENGINEER SINGHAL: Yes, sir, sometime we  
24 use to (indiscernible) the bottle so that air pressure from  
25 these bottles, which is to (indiscernible) bottle, and we

1 can (indiscernible) one or two (indiscernible) more.

2 CAPTAIN LEW KWOK YUE: Okay.

3 FOURTH ENGINEER SINGHAL: And after that no  
4 (indiscernible) so we had to wait for sometime so that we  
5 can't stop the (indiscernible).

6 CAPTAIN LEW KWOK YUE: When (indiscernible)  
7 mentioned the broken pieces in the piston ring of number six  
8 unit --

9 FOURTH ENGINEER SINGHAL: Yes, sir, only one small  
10 piece was found.

11 CAPTAIN LEW KWOK YUE: -- one piece found. How  
12 was the condition of the rest of the piston ring itself, on  
13 the number six?

14 FOURTH ENGINEER SINGHAL: Sir, I found one was no  
15 spring, no spring (indiscernible) sir, it means --

16 CAPTAIN LEW KWOK YUE: One means the first ring,  
17 because the first and the last ring are the important ring?  
18 Which ring were you going (indiscernible) itself?

19 FOURTH ENGINEER SINGHAL: I think it's the third  
20 ring.

21 CAPTAIN LEW KWOK YUE: The third ring? How many  
22 rings were there altogether?

23 FOURTH ENGINEER SINGHAL: Four, sir.

24 CAPTAIN LEW KWOK YUE: Four rings? What about a  
25 first ring, the tension on the first ring in that?

1                   FOURTH ENGINEER SINGHAL: (Indiscernible.)

2                   CAPTAIN LEW KWOK YUE: Fourth ring?

3                   FOURTH ENGINEER SINGHAL: First ring also  
4 (indiscernible).

5                   CAPTAIN LEW KWOK YUE: Okay, no more questions.

6                   UNIDENTIFIED SPEAKER: I have a question as a  
7 clarification. I couldn't write fast enough. In the  
8 diaphragm, you found the piston ring on the diaphragm  
9 separating what?

10                  FOURTH ENGINEER SINGHAL: (Indiscernible.)

11                  CAPTAIN LEW KWOK YUE: (Indiscernible.)

12                  MR. CURTIS: Which is the --

13                  UNIDENTIFIED SPEAKER: I can't ask questions about  
14 (indiscernible).

15                  MR. CURTIS: A clarification, okay, go ahead.

16                  UNIDENTIFIED SPEAKER: I just couldn't write it  
17 fast enough.

18                  MR. CURTIS: Okay.

19                  UNIDENTIFIED SPEAKER: I just wanted to --

20                  MR. CURTIS: Okay.

21                  UNIDENTIFIED SPEAKER: -- know where -- if he could  
22 repeat what he had said.

23                  FOURTH ENGINEER SINGHAL: That (indiscernible) top  
24 of the cylinder liner from the crankcase.

25                  UNIDENTIFIED SPEAKER: Okay, thank you.

1           FOURTH ENGINEER SINGHAL: Cylinder liner's  
2 carrying manifold from the crankcase.

3           UNIDENTIFIED SPEAKER: Okay that's all I need.

4           FOURTH ENGINEER SINGHAL: In order to prevent the  
5 falling of the oil off, we were in crankcase.

6           UNIDENTIFIED SPEAKER: Thank you.

7           MR. HOWELLS: Mr. Howells again. You didn't know  
8 of any other problems with this? Maintenance problems, or  
9 repair problems with this vessel?

10          FOURTH ENGINEER SINGHAL: No, sir, I don't think  
11 so, because we have got one very good program supplied to us  
12 by the company (indiscernible), and we had a (indiscernible)  
13 updating every month, and (indiscernible). Suppose if he  
14 forgets also (indiscernible) to find out that some routine  
15 is due. So, that will turn the (indiscernible).

16          If he forgets, also, if he update only  
17 (indiscernible) of that particular unit, it will  
18 (indiscernible) and this is an indication that it is going  
19 to be due within a month. So, there are very less chances  
20 of not doing any maintenance because we know already. So,  
21 we can be well prepared and at the (indiscernible)  
22 opportunity use to do all those jobs.

23          MR. HOWELLS: Can you think of anything that we  
24 forgot to ask, or can you think of anything that would help  
25 us with the investigation?

1               FOURTH ENGINEER SINGHAL: No, sir.

2               MR. HOWELLS: Okay that's all I have.

3               MR. CURTIS: Well, I guess that's all we have, and  
4 we certainly appreciate your time today, Anuj. It's been  
5 almost an hour and five minutes, and I certainly appreciate  
6 your patience with us, and you've been a wealth of  
7 information for us. So, this concludes the interview. It's  
8 now 14:40, and thank you, sir.

9               (Whereupon, at 2:40 p.m., the interview was  
10 concluded.)

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## C E R T I F I C A T E

DEPOSITION SERVICES, INC., hereby certifies that the attached pages represent an accurate transcript of the electronic sound recording of the proceedings of the National Transportation Safety Board Interview regarding the grounding of the Selendang Ayu on December 9, 2004.

INTERVIEW OF FOURTH ENGINEER:  
ANUJ SINGHAL

Eve Jemison, Transcriber